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EXAMINER

BODAWALA, DIMPLE N

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/723,389	Applicant(s) VEARIEL ET AL.	
	Examiner DIMPLE N. BODAWALA	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-39, 41-46, 49-61, 63, 64, 72-74, 76, 77, 80, 81, 83-85 and 87-90 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-39, 41-46, 49-61, 63, 64, 72-74, 76, 77, 80, 81, 83-85 and 87-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 87-89 are objected to under 37 CFR 1.75 (c) as being in improper forms because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 87-89 have not been further treated on the merits.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the adequate structure for limitation of means for providing electrical energy as cited in claim 72 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may

be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR

1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 42, 51, 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 42 recites the limitation "a portion of said heating means" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim, because claim 42 is depended on claim 36, wherein claim 36 cites heater, but fails to suggest "heating means", wherein such limitation makes the scope of the subject matter indeterminate.

6. Claim 51 is vague and indefinite because it is unclear by having multiple ranges of temperature.

7. Claim 72 is vague and indefinite because claim 72 cites “whereby”, wherein “whereby” statement does not define the structure. *In re Mason*, 114 USPQ 127.

8. Claim 72 is vague and indefinite because it is unclear which adequate structural element is involved to perform recited function for means.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claim 72 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

11. Claim 72 is rejected because claim 72 recites limitation of “means to provide electrical energy”, which was not supported by the disclosure of the instant application.

Claim Rejections - 35 USC § 102

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. **Claims 73, 74, 76-78, 80, 81, 83-85 and 90 are rejected under 35 U.S.C. 102(b) as being anticipated by Ready et al. (US 6,474,969).**

14. As to claims 73, 80, 88-90 Ready et al. ('969) discloses an extrusion die assembly (10) comprising a die plate (12) (See figure 3) for preparing pellets (See col.1 lines 11-15), wherein plate is made of steel (See col.3 lines 25-27) and having an extruder face (18) as an upstream face (18); a cutting face as a downstream face (20); at least one passage having first opening at face (18) for receiving the material and second exit opening at face (20) for extruding material in downstream face (20) direction (See figure 3); and an electrical heating element (28a,28b) proximate the downstream face and proximate with the one passage (24,26) at the downstream opening (see figure 3; col.4 lines 4-10), wherein the electrical heating element which inherently capable of locally heating the molten resin with the electrical heating elements. It further teaches that the annular passage (24, 26) is filled with a thermally conductive paste so that heat from heating element (28a, 28b) may be properly conducted to orifice (22) (See col.4 lines 11-20), which inherently suggests that the insulation material concentric with the passage and contiguous with the portion of the heating element which defines the wall of the passage, wherein the passage proximate opening of the downstream face for extruding the material; and wherein thermally conductive paste as the insulation material is capable to have high temperature plastic material. The patentability of a product or apparatus, however, does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985); *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); *In re*

Pilkington, 411 F.2d 1345, 1348, 162 USPQ 145, (CCPA 1969); (*MPEP* § 2113).

In this case, prior art discloses a product with all of the structural features defined in the claimed article and structure even with the defined steps in production.

15. As to claim 74, Figure 3 further teaches that the portion of the heaters (28a, 28b) defines the wall of the passage (24, 26) proximate the downstream face.

16. As to claims 76, 78, 83 and 85, it further teaches that the die plate is monolithic die plate (See figure 4), wherein the die plate is made of steel (See col.3 lines 25-27).

17. As to claims 77, 84, it further teaches that the dies plate comprises a first plate having upstream face and a second plate having a downstream face and the heater, wherein the first and second plates fluidically connected by the passage (See figure 4).

18. As to claim 81, figure 4 further shows that that the heating means is proximate to the exit opening.

19. Ready et al. discloses all claimed structural limitations as discussed above, and, thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

20. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

21. **Claims 36-39, 41-46, 49-61, 63-64 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ready et al. (US 6,474,969).**

22. As to claims 36, 41-42, 49-51, 54-55, 63-64, 72, Ready et al. ('969) discloses an extrusion die assembly (10) comprising a die plate (12) (See figure 3) for preparing pellets (See col.1 lines 11-15), wherein plate is made of steel (See col.3 lines 25-27) and having an extruder face (18) as an upstream face (18); a cutting face as a downstream face (20); at least one passage having first opening at face (18) for receiving the material and second exit opening at face (20) for extruding material in downstream face (20) direction (See figure 3); and an electrical heating element (28a,28b) proximate the downstream face and proximate with the one passage (24,26) at the downstream opening (see figure 3; col.4 lines 4-10), wherein the electrical heating element which inherently capable of locally heating the molten resin with the electrical heating elements. It further teaches that the annular passage (24, 26) is filled with a thermally conductive paste so that heat from heating element (28a, 28b) may be properly conducted to orifice (22) (See col.4 lines 11-20), which inherently suggests that the insulation material concentric with the passage and contiguous with the portion of the heating element which defines the wall of the passage, wherein the passage proximate opening of the downstream face for extruding the material; and wherein thermally conductive paste as the insulation material is capable to have high temperature plastic material. The patentability of a product or apparatus, however, does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985); *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA

1972); *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, (CCPA 1969); (*MPEP* § 2113). In this case, prior art discloses a product with all of the structural features defined in the claimed article and structure even with the defined steps in production.

23. As to claims 37, 56, Figure 3 further shows that the passage of the plate having cylindrical shape and varied diameter from the upstream to the downstream face. Thus, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Ready et al. by providing uniform diameter of the passage of the die plate in order to exhibit the product with uniform dimensions such as length and diameter. It is well settled that the determination of the optimum value of a cause effective variable, such as in this case, the uniform diameter of passage of the die plate for producing the product such as vermicelli and spaghetti with uniform dimensions, is within the skill of one practicing art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). It has been held that a mere change in shape without affecting the functioning of the part would have been within the level of ordinary skill in the art, *In re Dailey et al.*, 149 USPQ 47; *Eskimo Pie Corp. v. Levous et al.*, 3 USPQ 23.

24. As to claims 38-39, Figure 3 further shows that the heater (28a, 28b) is concentric with the passage, and passage passes through heaters (28a,28b), thus,

the portion of the heaters (28a, 28b) is capable to define the wall of the passage proximate the downstream face.

25. As to claims 43, 58, it further teaches that the die plate is monolithic die plate (See figure 4), wherein the die plate is made of steel (See col.3 lines 25-27).

26. As to claims 44-45, 59, 61, it further teaches that the dies plate comprises a first plate having upstream face and a second plate having a downstream face and the heater, wherein the first and second plates fluidically connected by the passage (See figure 4).

27. As to claim 46, 57, 60, it further teaches that the die plate comprises a plurality of passages (See figure 4). Claim 60 is being a substantial duplicate of claim 57. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording. See MPEP § 706.03(k).

28. As to claim 52, it further teaches that the extrusion die (10) comprises a plurality of extrusion orifices (22) forming a pattern, wherein the heating means (28a, 28b) comprises heater concentric with the extrusion orifice pattern (See figures 3-4).

29. As to claim 53, figure 4 further shows that that the heating means is proximate to the exit opening.

30. Ready et al. discloses all claimed structural limitations as discussed above. It further discloses extrusion die assembly comprises a die plate having upstream

face and downstream face; a plurality of passages; and electrically heating means proximate the exit opening of the passage, but fails to teach or suggest temperature range of the molten material exit from the downstream face.

31. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Ready et al. by providing temperature range of the molten material at exit opening of the passage of the die plate as recited in the claims, because such information exhibits the condition of the material during the extruding process, and, able to operate heater in order to provide the desired heating at a wide range of temperature for melting a variety of polymers, thus inherently having a wide range of melt temperatures. It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. *In re Sernaker*, 217 USPQ 1 (Fed. Cir. 1983).

32. **Claims 36-39, 43-46, 51-53, 56-61, 72-74, 76-77, 80-81 and 83-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leffew et al. (US 6,409,491).**

33. As to claims 36-38, 51, 52, 56, Leffew et al. ('491) discloses the extrusion die assembly (14) with the die plate (4), which comprises an upstream face (11); a downstream face (12), wherein die plate comprises a plurality of extrusion barrels as passages (1) having a first opening in the upstream face (11) whereby molten resin at bulk temperature may be received and a second outlet opening in said

downstream face (12) whereby molten resin may be extruded, wherein passage (1) is generally cylindrical and having substantially uniform diameter from the upstream to the downstream (See figure 1); and a heater (2) proximate said downstream face (12) and proximate with the passage (1) at the down stream opening and capable of heating the molten resin to a temperature, wherein the heater (2) is a combination of band heaters and cartridge heaters to keep the material flowing and to avoid frictional drag on the material passing through the plate and to prevent solidification prior to cutting (See col.1 lines 21-25; col.3 lines 9-15), which can be understandable that a combination of band heaters and cartridge heaters is a part of an electrical heating elements. It further teaches that the die plate (4) comprises the intermediate zone (9) for conveying the polymer melt (See figure 1). Figure 1 further teaches that the extrusion die assembly (14) having a plurality of extrusion orifices and the monolithic heater (2) in a resin shaping apparatus comprises a heater having first face to engage with the orifice, and second face opposite to the first face. It further teaches that the die plate is associated with the combination of a band and cartridge heater, means to provide electrical energy to the heater (See col.1 lines 21-32).

34. As to claims 39, 53, figure 1 shows that passage (15) passes through a position of the heater (2) such that the position is defines the wall of the passage proximate the downstream face. It further teaches that the heater (2) is concentric with the passage, wherein the passage (15) passes through the portion of the

heater, such that the portion defines the wall of the passage proximate the downstream face (12).

35. As to claims 43, 58, 76, 83, it further teaches that the die plate (4) is monolithic die plate (See figure 1).

36. As to claims 44-46, 57, 59-61, Figure 1 further teaches that the die plate (4) comprises the first plate having the upstream face (11) and a second plate having the downstream face (12) and heater (2), and also plurality of passage, wherein said first and second plate are fluidically connected by the passage (15) (See col.2 lines 18-48).

37. As to claim 72, Figure 1 further teaches that the extrusion die assembly (14) having a plurality of extrusion orifices and the monolithic heater (2) in a resin shaping apparatus comprises a heater having first face to engage with the orifice, and second face opposite to the first face. It further teaches that the die plate is associated with the combination of a band and cartridge heater, means to provide electrical energy to the heater (See col.1 lines 21-32). It further discloses a plurality of heaters (2), wherein each heater containing a corresponding extrusion barrel within the interior, such that the corresponding extrusion barrel is heated to a predetermined temperature (See figure 1, col.4 lines 14-18), which inherently suggests that the heating means for raising a local area of the material flow to a temperature above the T_{melt} as defined in the claims of the instant application. Figure 1 further teaches that the die plate (4) comprises the first plate having the

upstream face (11) and a second plate having the downstream face (12) and heater (2), and also plurality of passage, wherein said first and second plate are fluidically connected by the passage (15) (See col.2 lines 18-48).

38. As to claims 73-74, 77, 80-81, 84 Leffew et al. ('491) discloses the extrusion die assembly (14) with the die plate (4), which comprises an upstream face (11); a downstream face (12); a passage (15) having a first opening in the upstream face (11) whereby molten resin at bulk temperature may be received and a second opening in said downstream face (12) whereby molten resin may be extruded, wherein passage (15) is generally cylindrical and having substantially uniform diameter from the upstream to the downstream (See figure 1); and a heater (2) proximate said downstream face (12) and proximate with the passage (15) at the down stream opening and capable of heating the molten resin to a temperature, wherein the heater (2) is a combination of band heaters and cartridge heaters to keep the material flowing and to avoid frictional drag on the material passing through the plate and to prevent solidification prior to cutting (See col.1 lines 21-25), which can be understandable that a combination of band heaters and cartridge heaters is a part of an electrical heating elements. It further teaches that the die plate (4) comprises the intermediate zone (9) for conveying the polymer melt (See figure 1). Figure 1 further teaches that the extrusion die assembly (14) having a plurality of extrusion orifices and the monolithic heater (2) in a resin shaping apparatus comprises a heater having first face to engage with the orifice,

and second face opposite to the first face. It further teaches that the die plate is associated with the combination of a band and cartridge heater, means to provide electrical energy to the heater (See col.1 lines 21-32). Figure 1 further teaches that the die plate (4) comprises the first plate having the upstream face (11) and a second plate having the downstream face (12) and heater (2), and also plurality of passage, wherein said first and second plate are fluidically connected by the passage (15) (See col.2 lines 18-48).

39. Leffew et al. discloses all claimed structural limitations as discussed above. It further teaches that the plurality of heaters are capable to supply heat as needed to the extrusion barrel outlets (1) to maintain pre-selected temperature (See col.2 lines 45-50), but fails to teach or suggest the position of heater at the exit opening of the barrel; and also fails to teach or suggest temperature range of the molten material exit from the downstream face.

40. Thus, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Leffew et al. by arranging the heated in a selected position or the position as claimed, such exit opening of the barrel or passage, because such arrangement is allowed the heater to supply sufficient heat at the exit opening of the passage, and, thus able to maintain temperature of the molten material, while material exit from the downstream face of the plate. It has been recognized that to shift location of parts when the operation of the device is not otherwise changed is within the level of ordinary

skill in the art, *In re Japikse*, 86 USPQ 70; *In re Gazda*, 104 USPQ 400; *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975). In this case, the prior art is modify by providing heater at the exit opening of the passage of the die plate, in order to improve the efficiency of the extruding process and cutting process, and thus able to exhibit product with improve quality and consistency in product size.

41. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Leffew et al. by providing temperature range of the molten material at exit opening of the passage of the die plate as recited in the claims, because such information exhibits the condition of the material during the extruding process, and, able to operate heater in order to provide the desired heating at a wide range of temperature for melting a variety of polymers, thus inherently having a wide range of melt temperatures. It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. *In re Sernaker*, 217 USPQ 1 (Fed. Cir. 1983).

42. **Claims 41-42, 49-50, 54-55, 63-64, 78, 85 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leffew et al. (US 6,409,491) in view of Dudley (US 4,123,207).**

43. Leffew et al. discloses all claimed structural limitations as discussed above, but does not disclose the die plate made of material, the insulation material, and also the deposition of insulation material.

44. In the analogous art, Dudley ('207) discloses the die plate, which is made from Inconel, stainless steel, or like material (See col.3 lines 60-68). It further teaches that either low thermal conductivity material or Teflon insulates the die plate (See col.4 lines 20-27), as we know that Teflon having melting point is 327 degree C or 620.6 degree F (See wikipedia cite), which inherently suggests that TEFLON consists the higher temperature property. It has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claims following the preamble is a self-contained description of the structure (such as high temperature property of the insulation material) not depending for completeness upon the introductory clause, *Kropa v. Robie*, 88 USPQ 478. Moreover, when the preamble states a purpose or intended use for the invention, it is not limiting: it merely indicates the environment in which the claimed invention operates, *Loctite Corp. V. Ultraseal Ltd.*, 228 USPQ 90, 94.

45. Claims 49-50, 63-64 and 89 are recited the limitations of the process steps for depositing the insulation material either spray coating techniques or vapor deposition techniques. With regard to the claim recitations regarding the method of forming the apparatus, such relate only to the method of producing the claimed apparatus, which does not impart patentability to the apparatus claims. The determination of the patentability is based on the product apparatus itself, *In re Brown*, 173 USPQ 685, 688, and the patentability of the product does not depend

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on its method of the production, *In re Pilkington*, 162 USPQ 145, 147; *In re Thrope*, 227 USPQ 964 (CAFC 1985).

46. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Leffew ('491) by providing the material of the die plate because such an alignment having a high thermal conductivity which can be helpful to utilize the steam to maintain the material being extruded in a molten state (See col.1 lines 54-61) as suggested by Dudley ('207).

47. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Leffew ('491) by providing an insulation material of Dudley ('207) because such an alignment is involved to prevent freeze off of the die plate during the extrusion process.

Response to Arguments

48. Applicant argues that prior art, Yoshida (US 6,220,847) discloses a die having nozzles surrounded by heat transfer channels (8); and three thermocouples (9-11) which are used to represent transition points in the temperature profiled of the resin passing through the nozzles. Applicant's claimed an embodiment is to keep the resin temperature at this section of the die high or even higher than the upstream portion of the resin. Yoshida clearly does not anticipate Applicant's claimed embodiment. Applicant's arguments are fully considered and found

persuasive, and, therefore, the rejection of claims over Yoshida et al. has been withdrawn.

49. Applicant argues that prior art, Ready (US 6,474,969) discloses a die having an electric heating elements (28a, 28b), wherein heating elements surround the orifice (22) along its midsection. However, Ready does not discloses heating elements at the exit opening as claimed in Applicant's embodiments. However, Ready further fails to teach or suggest locally heating of the resin as is claimed or heating to an increased temperature as claimed.

50. In response to Applicant's arguments, Ready discloses a die plate having upstream face and downstream face, wherein die plate comprises passage, wherein passage comprises first opening and orifice (22) as second exit opening, wherein orifice is intended to exit the molten material in the shape of the orifice; and cutting means (21) is disposed near the second exit opening (22) of the passage of the plate, in order to cut extrudate (See figure 3). Figure 3 further shows that the die plate (12) comprises a plurality of heaters (28a, 28b) which are disposed around the passages, wherein heater (28a) having a dimension which is able to proximate the passage at exit opening, so the molten material remains in molten state while it exits from the passage. It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. *In re Sernaker*, 217 USPQ 1 (Fed. Cir. 1983).

51. In response to applicant's argument that "Ready further fails to teach or suggest locally heating of the resin as is claimed or heating to an increased temperature as claimed", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, Ready discloses die plate (10) comprises a plurality of heaters (28a, 28b) which are disposed around the passages, wherein heater (28a) having a dimension which is able to proximate the passage at exit opening, so the molten material remains in molten state while it exits from the passage. Thus, heater of the prior art is capable to heat the molten material as claimed.

52. Applicant's all arguments regarding rejection of claims over Ready have been fully considered, but not found persuasive as discussed above, and, therefore, the rejection of claims over Ready has been maintained.

53. Applicant further argues that primary art, Leffew et al. (US 6,409,491) does not disclose a heating element at the exit opening as claimed. However, Leffew discloses a heater (2) and thermocouple (3) located at the outlet (12); and also the presence of the air gap (8) would make the placement of a heater at the die opening impossible and render the die of Leffew unfit for its intended purpose.

54. In response to Applicant's arguments, Leffew et al. discloses extrusion die assembly having extrusion die plate, and a plurality of heater to supply heat as

needed to the extrusion barrel outlets to maintain pre-selected temperature (See col.2 lines 45-49), thus, the heater is capable to maintain pre-selected temperature of the polymer at outlet of the extrusion barrel. It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. *In re Sernaker*, 217 USPQ 1 (Fed. Cir. 1983).

55. In response to applicant's argument that "Leffew et al. further fails to teach or suggest locally heating of the resin as is claimed or heating to an increased temperature as claimed", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, Leffew discloses extrusion die assembly (14) having an extrusion die plate (4) comprises a plurality of heaters (2) which are disposed around the barrel (1) as passages, wherein heater (2) is capable to supply needed heat to the outlet of the barrel, so the molten material remains in molten state while it exits from the passage. Thus, heater of the prior art is capable to heat the molten material as claimed.

56. Applicant's all arguments regarding rejection of claims over Leffew et al. have been fully considered, but not found persuasive as discussed above, and, therefore, the rejection of claims over Leffew et al. has been maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIMPLE N. BODAWALA whose telephone number is (571)272-6455. The examiner can normally be reached on Monday - Friday at 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PHILLIP C. TUCKER can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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